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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/630,730 | 07/31/2003 | Hiroshi China | 2003_1069A | 9351 |
| 513 | 7590 | 07/13/2005 | EXAMINER | |
| WENDEROTH, LIND & PONACK, L.L.P. | | | SAN MARTIN, EDGARDO | |
| 2033 K STREET N. W. | | | ART UNIT | |
| SUITE 800 | | | PAPER NUMBER | |
| WASHINGTON, DC 20006-1021 | | | 2837 | |

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,730

Applicant(s)

CHINA, HIROSHI

Examiner

Edgardo San Martin

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated, as described in the specification on page 3, line 17. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
- The Abstract is more than 150 words long;
 - The direct reference to the claims throughout the specification should be deleted.

Appropriate correction is required.

Claim Objections

3. Claims 1 – 11 are objected to because of the following informalities:
- In all claims, line 1 after "horn-type speaker" the word - - unit - - should be inserted, in order to avoid 35 USC 112 issues;
 - In claims 1 and 2, line 1 the phrase "characterized by" should be deleted;
 - In claims 3 – 11, the phrase "characterized in that" should be replaced by - - wherein - - in order to comply with the US patent practice.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Wolcott (US 4,850,452).

Wolcott teaches an omnidirectional backload horn-type speaker unit comprising a speaker unit (Figs.2 and 3, Item 22) installed facing upwards; a diffuser (Figs. 2 and 3, Item 24) located at an upper portion of the speaker unit for reflecting the sound emitted from the speaker unit so that the sound diffuses to the surroundings; and a cylindrical body in substantially conical form or substantially polygonal pyramid form (Figs.2 and 3,

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Item 21) of which the end portion on the upper side is closed and is connected to the rear side of the speaker unit at a lower portion of the speaker unit, and of which the end portion on the lower side is open (Figs.2 and 3, Item 20) (Col.2, Lines 42 – 60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolcott (US 4,850,452) in view of Sango (US 5,446,792).

Wolcott teaches the limitations discussed in a previous rejection, but fail to disclose the diffuser located in front of the speaker unit diffusing the sound across 180° in front of the speaker.

On the other hand, Sango teaches a speaker unit comprising a speaker unit (Fig.5, Item 17) installed facing upwards; a diffuser (Fig. 5, Item 25) located at an upper portion of the speaker unit diffusing the sound across 180° in front of the speaker (Figs.5, 6 and 9; Col.2, Line 44 – Col.3, Line 40).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ the Sango diffuser as the Wolcott diffuser because the Sango diffuser would distribute the sound waves equally to each direction through an angle of 180°, improving the sound wave radiation efficiency.

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With respect to claim 7, the Examiner takes Official Notice that it is well known in the art of electrical connections to employ a welding process to secure a permanent connection between to electrical carriers.

6. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolcott (US 4,850,452) in view of Pavlovic (US 5,283,397), and further in view of Schultz (US 3,940,576).

Wolcott teaches the limitations discussed in a previous rejection, but fail to disclose the speaker unit having a second cone provided inside of a first cone, and a third cone in a tapered conical form provided inside of the second cone.

Nevertheless, Pavlovic teaches a speaker unit having a second cone (Fig.1, Item 6) provided inside of a first cone (Fig.1, Item 2).

On the other hand, Schultz teaches a cone (Fig.4, Item 22) in a tapered conical form provided inside of a cone (Fig.4, Item 16).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ in combination the Wolcott, Pavlovic and Schultz diaphragm cones designs because the Pavlovic second cone would improve the frequency pattern of the electrodynamic transducer at high frequencies and the continuity of the sensitivity. The Schultz design would direct the sound wave produced by the diaphragm to a specific location with a faithful reproduction of complex signals with increased brilliance and clarity.

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With respect to claim 8, the Examiner takes Official Notice that it is well known in the art of electrical connections to employ a welding process to secure a permanent connection between to electrical carriers.

7. Claims 4, 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolcott (US 4,850,452) in view of China (JP 2001346284).

With respect to claims 5 and 11, Wolcott teaches the limitations discussed in a previous rejection, but fail to disclose a heating element being provided within the speaker enclosure.

Nevertheless, China teaches a speaker unit comprising a heating element being provided within the speaker enclosure (Abstract).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ the China heating element with the Wolcott design because the heating element would remove moisture of the speaker unit diaphragm, providing a immediate high fidelity sound reproduction.

With respect to claim 4, the Examiner takes Official Notice that it is well known in the art of electrical connections to employ a welding process to secure a permanent connection between to electrical carriers.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolcott (US 4,850,452) in view of Sango (US 5,446,792), and further in view of Pavlovic (US 5,283,397) and Schultz (US 3,940,576).

Wolcott and Sango teach the limitations discussed in a previous rejection, but fail to disclose the speaker unit having a second cone provided inside of a first cone, and a third cone in a tapered conical form provided inside of the second cone.

Nevertheless, Pavlovic teaches a speaker unit having a second cone (Fig.1, Item 6) provided inside of a first cone (Fig.1, Item 2).

On the other hand, Schultz teaches a cone (Fig.4, Item 22) in a tapered conical form provided inside of a cone (Fig.4, Item 16).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ in combination the Wolcott, Sango, Pavlovic and Schultz diaphragm cones designs because the Pavlovic second cone would improve the frequency pattern of the electrodynamic transducer at high frequencies and the continuity of the sensitivity. The Schultz design would direct the sound wave produced by the diaphragm to a specific location with a faithful reproduction of complex signals with increased brilliance and clarity.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolcott (US 4,850,452) in view of Sango (US 5,446,792), and further in view of China (JP 2001346284).

Wolcott and Sango teach the limitations discussed in a previous rejection, but fail to disclose a heating element being provided within the speaker enclosure.

Nevertheless, China teaches a speaker unit comprising a heating element being provided within the speaker enclosure (Abstract).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ the China heating element with the Wolcott and Sango design because the heating element would remove moisture of the speaker unit diaphragm, providing a immediate high fidelity sound reproduction.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolcott (US 4,850,452) in view of Pavlovic (US 5,283,397) and Schultz (US 3,940,576), and further in view of China (JP 2001346284).

Wolcott, Pavlovic and Schultz teach the limitations discussed in a previous rejection, but fail to disclose a heating element being provided within the speaker enclosure.

Nevertheless, China teaches a speaker unit comprising a heating element being provided within the speaker enclosure (Abstract).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ the China heating element with the Wolcott, Pavlovic and Schultz design because the heating element would remove moisture of the speaker unit diaphragm, providing a immediate high fidelity sound reproduction.

Conclusion

11. The attached hereto PTO Form 892 lists prior art made of record that the Examiner considered it pertinent to applicant's disclosure.

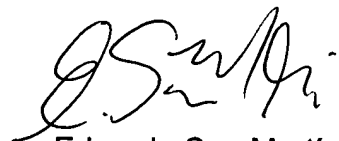
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Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edgardo San Martín whose telephone number is (571) 272-2074. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Edgardo San Martín
Primary Examiner
Art Unit 2837
Class 181
July 9, 2005